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EXAMINER				
DAILEY, THOMAS J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/665,585

Applicant(s)

CREAMER ET AL.

Examiner

THOMAS J. DAILEY

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-12, 14-20 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-12, 14-20, and 23-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1, 4-12, 14-20, and 23-31 are pending.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 28, 2008 has been entered.

Response to Arguments

3. Applicant's arguments filed 5/28/2008 have been fully considered but they are not persuasive.
4. The applicant argues with respect to claims 1, 4-12, 14-20, and 23-31 that the combination of Boukobza and Putzolu fail to disclose a one-to-one association between a ghost agent and a corresponding host. The applicant contends that Boukobza discloses an autonomous agent is associated with a specific node, not a specific host and thereby implicitly contending a specific node is cannot be a specific host. The applicant further contends that being associated with object type is altogether different from being associated with a specific host.

5. The examiner disagrees. The specific object types an agent is associated with in Boukobza is in turn associated with the node that the autonomous agent is monitoring. That is to say, that in Boukobza an autonomous agent is not just specific to object types, but rather is specific to a node and, consequently, specific to object types of that node (column 4, lines 64-67 and column 5, lines 13-18). The examiner further disagrees with the contention that a specific node cannot be a specific host as the nodes comprise software and that is what the autonomous agents monitor (i.e. the hosts are the node itself or the software on the node).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*,

686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

7. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.
8. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).
9. Claims 1, 4-12, 14-20, and 23-31 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 13, 20, and 32 of U.S. Patent No. 7,284,156, hereafter '156. Although the conflicting claims are not identical, they are not patentably distinct from each other because all limitations of the patented case are found in the instant application's claims and the additionally limitations found in the instant application's claims would have been obvious variations of '156s claims.

10. Regarding claims 1, 20, and 32 of '156, they substantially recite, a method for debugging software objects within a grid environment comprising the steps of:

identifying a host, wherein said host is a software object operating in a grid of said grid environment;

associating a ghost agent within said grid with said host, wherein said ghost agent is configured to replicate and record at least one action of said host within said grid;

debugging said host based upon said recorded actions;

moving said host from said grid to another grid within said grid environment; and,

in response to said moving of said host, moving said ghost agent from said grid to said another grid.

11. Regarding claim 13 of '156, it recites, a computer-readable storage medium, comprising computer instructions for a debugger to debug software within a grid computing environment, said debugger comprising a debugger interface for debugging software objects for an application domain distributed within different grids of a grid environment,

wherein said software objects comprise a plurality of hosts and at least one ghost agent configured to be associated with a selected one of said hosts to replicate and record at least one action of said hosts,

wherein at least a portion of said hosts move from one grid within said grid environment to another grid, and wherein said ghost agents responsively move from said one grid to said another grid in response to movement of said associated host,

wherein said ghost agent is further configured to debug said associated host, and wherein said interface conveys debugging commands to said ghost agents and responsively receives debugging messages.

12. As to claims 1, 20, and 31 of the instant application, they substantially recite, a testing method comprising the steps of:

identifying a plurality of hosts located within a plurality of grids of a grid environment, wherein each of said hosts is a software object;

for each of said grids, associating a passive ghost agent in said grid with each one of said identified hosts operating in said grid, wherein said passive ghost agent is configured to replicate and record at least one action of said host within said grid environment, wherein said replicated actions of said passive agents are prevented from operationally executing in said grid environment;

moving at least one of said hosts from one of said grids to another of said grids within said grid environment;

in response to said moving of said host, moving said passive ghost agent from said one of said grids to said another grid;

generating test input from said recorded data; and,
**testing within said grid environment using said test input
(correlates to “debugging said host based upon said recorded
actions” in ‘156).**

13. As to claim 16 of the instant application it recites, a machine-readable storage medium in a grid computing environment, comprising computer instructions for testing applications in said grid environment using a passive ghost agent associated with a host operating within said grid environment, said passive ghost agent comprising a ghost controller for:

managing interactions between said ghost agent and said grid environment,

recording data related to actions executed by the host in a ghost log of said ghost agent, wherein said host is a software object; and

identifying said ghost agent to components within a grid environment;

wherein at least a portion of said hosts move from one grid within said grid environment to another grid, wherein said ghost agent automatically moves from said one grid to said another grid within said grid computing environment in response to said associated host moving from said one grid to said another grid, and

**wherein said ghost agent is used to test grid-based applications
(correlates to “debugging said host based upon said recorded
actions” in ‘156).**

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for
all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1, 4-8, 10, 16-20 23-27, 29, and 31, are rejected under 35 U.S.C.
103(a) as being unpatentable over Boukobza et al (US Pat. 6,122,664),
hereafter “Boukobza,” in view of Putzolu et al (US Pat. 6,681,423),
hereafter “Putzolu.”

16. As to claims 1, 20, and 31, Boukobza discloses a machine readable
medium for causing a computer to execute a testing method, a system for
testing, and the testing method (Abstract) comprising the steps of:
identifying a plurality of hosts located within a plurality of grids of a grid
environment, wherein each of said hosts is a software object (column 4,
lines 64-67, “agents are installed...in the nodes to be monitored” and
agents are specific to object types, column 5, lines 13-18);

for each of said grids associating a passive ghost agent in said grid with each one of said identified hosts operating in said grid (column 4, lines 64-67 and column 5, lines 13-18, "An autonomous agent SAA is chiefly composed of a generic agent GA related to specific modules SM"), wherein said passive ghost agent is configured to replicate and record at least on action of said host within said grid environment, wherein said replicated actions of said passive agents are prevented from operationally executing in said grid environment (column 6, lines 30-34, "log files of the actions of each node monitored");

generating test input from said recorded data (column 8, lines 44-67, the log is tested for errors via a scan); and,

testing within said grid environment using said test input (column 8, lines 44-67, the log is tested for errors via a scan).

Boukobza, however, does not disclose moving said hosts and in response to said moving of said host, moving said passive ghost agent in a similar manner.

However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of

both the monitoring agent and the software objects in Boukobza, due to the fact that if Boukobza software objects move, so to will Boukobza's agents as they are associated with the objects and log their actions. Such of modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8)

17. As to claim 16, Boukobza discloses a machine-readable storage medium in a grid computing environment, comprising computer instructions for testing applications in said grid environment using a passive ghost agent associated with a host operating within said grid environment (Abstract), said passive ghost agent comprising a ghost controller for:

managing interactions between said ghost agent and said grid environment (column 5, lines 8-18);

recording data related to actions executed by the host in a ghost log of said ghost agent, wherein said host is a software object (column 6, lines 30-34, "log files of the actions of each node monitored");

identifying said ghost agent to components within a grid environment (column 8, lines 53-63, the action that is called is sent to "the object_id");

wherein said ghost agent is used to test grid-based applications (column 8, lines 44-67, the log is tested for errors via a scan).

Boukobza, however, does not disclose moving said hosts and in response to said moving of said host, moving said passive ghost agent in a similar manner.

However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of both the monitoring agent and the software objects in Boukobza, due to the fact that if Boukobza software objects move, so to will Boukobza's agents as they are associated with the objects and log their actions. Such of modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8)

18. As to claims 4 and 23, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose determining operational metrics for at least one component to be tested; modifying said test input based upon said operational metrics (Boukobza, column 8, lines 44-67, parameters from the log are compared with wanted or expected values of parameters (operational metrics)).

19. As to claims 5 and 24, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose said hosts are disposed within a production segment of said grid environment (Boukobza, column 4, lines 64-67) and wherein said testing is performed within a test segment of said grid environment (Boukobza, column 8, lines 44-67).
20. As to claims 6 and 25, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose inputting said test input into at least one active ghost agent deployed within said test segment (Boukobza, column 8, lines 50-56); and, executing actions within said test segment based upon said active ghost agent that received said test input (Boukobza, column 8, lines 53-63).
21. As to claims 7 and 26, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose recording data relating to said testing using said deployed ghost agents (Boukobza, column 8, lines 50-67).
22. As to claims 8 and 27, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose said hosts are associated with a specific application, wherein said testing is conducted for said application (Boukobza column 8, lines 44-67).

23. As to claims 10 and 29, Boukobza and Putzolu discloses the parent claims 1 and 20, and further disclose gathering usage data for at least one different application using passive ghost agents (Boukobza, column 2, lines 39-46).

24. Claims 12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US Pat. 5,812,780), hereafter "Chen," in view of Putzolu.

25. As to claim 12, Chen discloses a computer-readable storage medium, comprising computer instructions for testing applications within a grid environment wherein said grid environment comprises a production segment and a test segment (Abstract), said system comprising:

wherein an application comprises one or more hosts configured to execute actions within a grid of said grid environment disposed in said production segment (column 6, lines 51-54); and,

wherein said testing comprises associating a passive ghost agent within said grid with each of said hosts, wherein said ghost agent is configured to record data related to said actions executed by said associated host in said grid (column 4, lines 3-5), wherein said recorded data is used to simulate user interactions within said test segment (column 3, lines 53-59).

But Chen does not disclose moving said hosts and in response to said moving of said host, moving said passive ghost agent in a similar manner.

However, Putzolu discloses using mobile agents in a grid environment and such agents being applications to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23).

However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of both the monitoring agent and the software objects in Chen, due to the fact that if Chen software objects move, so to will Chen's agents as they are associated with the objects and log their actions. Such of modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8).

26. As to claim 14, Chen and Putzolu disclose the parent claim 12, and further disclose a different host configured to execute actions within said test segment (Chen, column 6, lines 51-57, there are multiple servers in Chen's

system); a different ghost agent configured to record data related to actions executed by said host of said test segment (Chen, column 4, lines 3-5, multiple simulations of clients).

27. As to claim 15, Chen and Putzolu disclose the parent claim 14, and further disclose a ghost agent configured to trigger said different host in said test segment to execute said actions based upon data recorded by said ghost agent in said production segment (Chen, column 4, lines 3-9).

28. Claims 9, 11, 18, 28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boukobza and Putzolu, as applied to claims 8 and 27 above, in further view of Chen.

29. As to claims 9 and 28, Boukobza and Putzolu discloses the parent claims 8 and 27, but do not disclose determining system requirements for said application based at least in part upon output from said testing.

However, Chen discloses determining system requirements for said application based at least in part upon output from said testing (column 3, line 64-column 4, line 9).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Boukobza with

Chen in order to determine how many clients a given server can adequately support (column 3, lines 64-67).

30. As to claims 11 and 30, Boukobza and Putzolu discloses the parent claims 10 and 29, but do not disclose testing said specific application while simultaneously simulating load conditions resulting from said at least one different application.

However, Chen discloses testing said specific application while simultaneously simulating load conditions resulting from said at least one different application (column 4, lines 5-9).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Boukobza and Putzolu with Chen in order to determine how many clients a given server can adequately support (column 3, lines 64-67).

31. As to claim 18, Boukobza and Putzolu disclose the parent claim 16, but do not disclose means for simulating user actions during tests using said ghost agent.

However Chen discloses means for simulating user actions during tests using said ghost agent (column 3, lines 53-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Boukobza and Putzolu with Chen in order to determine how many clients a given server can adequately support (column 3, lines 64-67).

Conclusion

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Dailey whose telephone number is 571-270-1246. The examiner can normally be reached on Monday thru Friday; 9:00am - 5:00pm.
33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2146

34. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. J. D./
Examiner, Art Unit 2152

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2146